

# Clinical radiology **Wales workforce 2019** summary report

**August 2020**

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**Discussions at a national level are urgently required ... to ensure safe and equitable services for patients.**

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## Foreword

The information in this report refers to the year 2019. Since then, COVID-19 has changed many aspects of healthcare. However, the shortages outlined in this report remain highly relevant.

Undoubtedly there will be changes to the way medicine is practised post-COVID-19, but radiology is likely to experience more demand not less. A huge backlog of scanning and reporting has built up in Wales, and the new pathways being developed to reduce hospital admissions across Wales are heavily reliant on prompt access to diagnostic imaging.

There have been some positives recently; the National Imaging Academy continues to provide training for more radiology registrars than was possible with the old training scheme. The national Radiology Informatics System is scoping options for a new computer system to improve efficiency and image sharing in radiology departments. Numbers of applicants for radiology specialty training posts remain high. More home workstations have been provided due to the need for social distancing, although homeworking capability is still not in place for many. Increased capacity for home working helps recruitment, retention and productivity, so should continue to be supported by NHS employing organisations.

Clinical directors state there are still not enough consultant radiologists to deliver safe and effective care in most of Wales. With an estimated shortfall of 93 consultants (37%), outsourcing and insourcing costs continue to increase and, due to upcoming retirements, this is likely to worsen. Demand for imaging and interventional radiology continues to grow.

Regional variation remains a problem, with particular shortages in North and West Wales. Interventional radiology has become an acute problem, with very few trained consultants able to provide these lifesaving procedures west of Cardiff. The number of interventional radiologists in this region has decreased dramatically due to consultants recently retiring or leaving.

Discussions at a national level, in particular regarding networks and shortages of clinical radiology specialists in some areas, such as interventional radiology and paediatric radiology, are urgently required. Action is required to ensure safe and equitable services for patients. Ultimately, the only sustainable solution is more consultants coming from increased trainee numbers in Wales and maximising the benefits of the National Imaging Academy.

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**Chair of the Welsh Standing Committee**

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## Executive summary

### Objectives

This report provides details of the radiology workforce in Wales in 2019, with a focus on regional variation, the estimated shortfall of consultant clinical radiologists and workforce forecasts over the next five years. It goes on to make recommendations on how to tackle the radiology workforce shortage in Wales. Closing the gap between the radiology workforce supply and demand is essential to support safe and effective care for patients.

This report for Wales supplements the *Clinical radiology UK workforce census 2019 report*.<sup>1</sup> Please refer to the UK report for UK-wide radiology trends and information such as census timings and methodology.

### Key findings

Workforce shortages in clinical radiology are negatively affecting patient care in Wales by delaying the diagnoses and treatment of many conditions, including cancer and restricting the availability of minimally invasive interventional radiology procedures. This has implications for patient safety. Of concern, clinical directors of six of the seven health boards in Wales (86%) feel there are not enough consultant radiologists to deliver safe and effective patient care.

Furthermore, workforce shortages have been pushing up NHS outsourcing, insourcing and locum costs in recent years to the extent that this expenditure in Wales in 2019 reached an estimated £7.6 million.\* For context, £7.6 million is equivalent to the combined salaries of more than half of the existing consultant clinical radiologist workforce in Wales.<sup>2</sup>

Workforce shortages are putting the radiology workforce in Wales under immense pressure, significantly increasing the likelihood of stress and burnout and staff leaving the profession, further exacerbating workforce shortages in Wales.

This report estimates that there is a current shortfall of 93 whole-time equivalent (WTE) consultant clinical radiologists in Wales.\*\* This is equivalent to a 37% shortfall, indicating severe workforce shortages. The situation is likely to worsen, as a quarter of consultant clinical radiologists in Wales are forecast to retire within five years and there are insufficient trainees to fill the pending vacancies. This report forecasts that the workforce will contract by two WTE consultant clinical radiologists within five years. At a time when there is continued growth in demand for diagnostic and interventional radiology, it is clear that patients will be adversely affected unless urgent action is taken to rectify the radiology workforce shortages in Wales.

This report highlights that, while there is a severe shortage of consultant clinical radiologists across Wales, the shortage is particularly severe in some regions and for some specialist posts. Of particular concern:

- There is a severe shortage of interventional radiologists in Wales, estimated to be 38% (n=16). Provision of interventional radiology in Wales is patchy, with inadequate IR services in South West Wales; this is unsafe and puts patients at risk.
- The shortage of breast radiologists in Wales is likely to increase rapidly over the coming five years, as many specialists are approaching retirement age and few of the newly qualified consultant clinical radiologists are choosing to specialise in this area.

\**Insourcing describes additional paid reporting by health board radiologists outside of their contracted hours.*

\*\**A WTE is a whole-time (or full-time) doctor contracted for ten programmed activities (PAs) per week, equivalent to a 37.5-hour week in Wales.*

- Shortages of consultant clinical radiologists in North and West Wales,\* which are more severe than in South Wales.

## Recommendations

The COVID-19 era has highlighted diagnostics and interventional radiology as being vital to the NHS. The increase in training numbers in recent years, while welcome, is not sufficient to close the growing gap between supply and demand for radiology services.

To address radiology workforce shortages in Wales, our recommendations are:

- **Increase training places:** the number of clinical radiology training places needs to be doubled to 29, including additional funding for interventional radiology posts, as soon as is practicable following the COVID-19 recovery period. Radiology remains a popular specialty among doctors in Wales; training posts are oversubscribed so increased numbers can be easily achieved with adequate funding.
- **More flexible working patterns:** several changes to radiologist working patterns have taken place as a result of the COVID-19 pandemic, including increased working from home and more flexible working. NHS Employing organisations should support flexible working in order to increase staff morale and improve staff retention, for example through providing fully integrated picture archiving and communication system (PACS) workstations for home working. Other changes, such as multi-site working and network formation should also be embraced.
- **Innovative delivery models:** all-Wales solutions, such as improved network formation (with fully resourced IT connectivity and software) or centralisation with hub and spoke models, would help to support particular shortage subspecialties such as interventional vascular radiology and paediatric radiology.

*\*North and West Wales includes Betsi Cadwaladr University Health Board and Hywel Dda University Health Board*

## 1. The radiology workforce in Wales in 2019

There were 171 consultant-grade radiologists employed by seven health boards in Wales in September 2019. This includes NHS, academic and mixed NHS/academic posts.

**Table 1. Clinical radiology workforce (headcount) – Wales regions, 2019**

	North and West Wales	South Wales	Wales total
Consultant-grade	45	127	171
Specialty trainee	10	62	72
SAS-grade	2	1	3
Total	57	189	246

[SAS-grade comprises associate specialists, specialty doctors and trust-grade staff.]  
[Due to rounding, numbers in this table may not add up precisely to the totals provided.]

Taking into account the contracted hours of less than full-time (LTFT) doctors, the total of 171 consultant clinical radiologists in Wales equates to 156 whole-time equivalents (WTEs).\*

Workforce growth in Wales has averaged 2% per year over the past five years, half of the 4% average growth seen across the UK as a whole. Workforce growth in Wales has slowed in the past year to less than 1%; there was an increase of just one WTE consultant clinical radiologist in Wales between 2018 and 2019.

Specialty trainees comprise 30% of the radiology workforce in Wales, broadly comparable to the 29% trainee ratio across the UK workforce as a whole.\*\* Within Wales, the trainee ratio is much lower in North and West Wales (18%) than in South Wales (33%) where the National Imaging Academy Wales is located. This is concerning because the supply of consultants in North and West Wales may be hindered by the tendency for clinical radiology trainees to take up consultant posts in the regions where they undertook their specialty training.

\*LTFT is defined as working fewer than ten PAs (equivalent to a contract of 37.5 hours) per week.

\*\*In this context radiology workforce refers to consultant clinical radiologists and specialty trainees (it excludes SAS-grade doctors).

Census data highlight significant variation in the clinical radiology workforce distribution per capita across Wales. These data are summarised in Table 2. In Wales, there are 5.0 consultant clinical radiologists per 100,000 population, compared to 5.6 per 100,000 across the UK as a whole. North and West Wales has only 3.8 consultant clinical radiologists per 100,000 population, indicating that workforce shortages are more severe in North and West Wales than in other parts of the country. However, it should be noted that these figures are simplistic; they give a broad indication of the relative supply of consultant clinical radiologists across regions or countries but do not take into account local factors which may increase or decrease the demand for radiology services. Regions, or countries, with a relatively high number of consultants per population compared to the UK average may still have significant shortages.

**Table 2. Radiology workforce per 100,000 population – Wales regions, 2019<sup>3</sup>**

	North and West Wales	South Wales	Wales total
Consultant clinical radiologists (WTE)	41	115	156
Consultant clinical radiologists (WTE) per 100,000 population	3.8	5.6	5.0
Consultant clinical radiologists (WTE) and specialty trainees per 100,000 population	4.7	8.6	7.2

### Interventional radiology

Interventional radiology (IR) is a subspecialty of clinical radiology. Interventional radiologists perform minimally invasive image-guided procedures, including emergency treatment for patients with bleeding, sepsis and stroke. The demand for IR has increased over many years, as has the range and complexity of IR procedures. However, with ongoing workforce shortages, IR provision remains patchy in Wales. This is unsafe and puts patients at risk.

The census provides the following indications of a shortage of interventional radiologists (IRs) in Wales:

- The UK IR workforce has grown by an average of 4% per year over the past five years. In stark contrast, the IR workforce in Wales has increased by an average of 1% per year over the past five years. In 2019 there were 26 WTE interventional radiologists (IRs) in Wales, an increase of only two IRs (WTE) over the past five years.
- The UK has an average of ten IRs per million population. In comparison, Wales has eight IRs per million population.

Health boards need a minimum of six IRs (WTE) to provide an effective and sustainable 24-hour IR service.<sup>4</sup> Alternatively, health boards need formal arrangements in place to transfer patients to other health boards for IR procedures. Three of the seven health boards in Wales did not meet these requirements in 2019. To meet these standards, census data indicate that the minimum number of additional IRs required in Wales is 16. This equates to a 38% shortfall of interventional radiologists in Wales.

## 2. Workforce supply and attrition

Twenty-one funded consultant clinical radiologist vacancies were reported in Wales in September 2019. This equates to a vacancy rate of 12%, broadly comparable to the UK vacancy rate of 11%. However, as highlighted in the UK report, vacancies reported through the annual census significantly understate the true extent of clinical radiology workforce shortages; vacancies may be restricted due to lack of funding or lack of suitable candidates, or may be postponed to allow internal candidates time to complete their specialty training. In Wales, approximately three-quarters (71%, n=15) of vacancies have been unfilled for a year or more, indicating a severe shortage of suitable candidates.

The supply of new consultant clinical radiologists in Wales most frequently comes from specialty training within Wales. However, overseas recruitment (or recruitment from the rest of the UK) is increasingly common.

### Clinical radiology specialty training

RCR training data show that, on average, 14 doctors have started specialty training in clinical radiology in Wales each year, over the past three years. Clinical radiology trainees in Wales took an average of five years and ten months to complete their specialty training and gain a Certificate of Completion of Training (CCT).<sup>\*</sup> A small number of trainees (on average one per cohort, equal to approximately 10%) withdrew and did not complete their clinical radiology training.

Over the next five years, it is estimated that 42 doctors (WTE) will take up consultant clinical radiology posts in Wales following completion of specialty training; approximately eight are expected to join the workforce each year. This forecast accounts for expected attrition, including an estimated 12% who will complete their specialty training but not take up consultant posts in Wales.<sup>\*\*</sup> Eight newly appointed consultant clinical radiologists (WTEs) in 2020 is insufficient to fill even half of the 21 funded vacancies reported in 2019. Current training numbers are clearly inadequate to cover current vacancies, let alone gaps resulting from upcoming retirements and rising demand.

### Overseas recruitment

Radiology departments in Wales are increasingly turning to overseas recruitment to try to fill consultant radiologist vacancies. In 2019, four of the seven health boards attempted to recruit from overseas. However, overseas recruitment has proven difficult, with only half of the health boards which attempted it in 2019 reporting any successful recruitment attempts.

### Retirements

The number of consultant clinical radiologists leaving the workforce varies from year to year, but the general trend across the UK over the past five years has been one of increased attrition rates. The most frequently cited reason for UK consultant clinical radiologists leaving the profession is retirement. The average (median) age of retirement in 2019 in the UK was 60 years.

<sup>\*</sup>Includes trainees who have undertaken additional interventional radiology training.

<sup>\*\*</sup>Based on the UK trends observed over the past five years.



Based upon the UK average age of retirement of 60 years, an estimated 39 WTE consultants in Wales – equivalent to 25% of the current consultant workforce – are expected to retire over the next five years. This level of attrition will put considerable additional strain on the radiology workforce. Table 3 shows that a particularly high level of consultant retirements is forecast in South Wales (27% of consultant workforce) over the next five years.

**Table 3. Forecast retirements – consultant clinical radiologists, Wales regions, next five years (to 2024)**

Forecast retirements	North and West Wales	South Wales	Wales total
Consultants (WTE)	8	31	39
Percentage of workforce	21%	27%	25%

### 3. Workforce forecast illustrated – next five years

The size of the consultant clinical radiology workforce in Wales is determined by entrants from UK specialty training and recruitment from overseas, set against attrition from retirements and other leavers and the trend towards LTFT working. This section forecasts the size of the clinical radiology workforce in Wales in five years' time, based upon these determinants and trends observed in recent years.

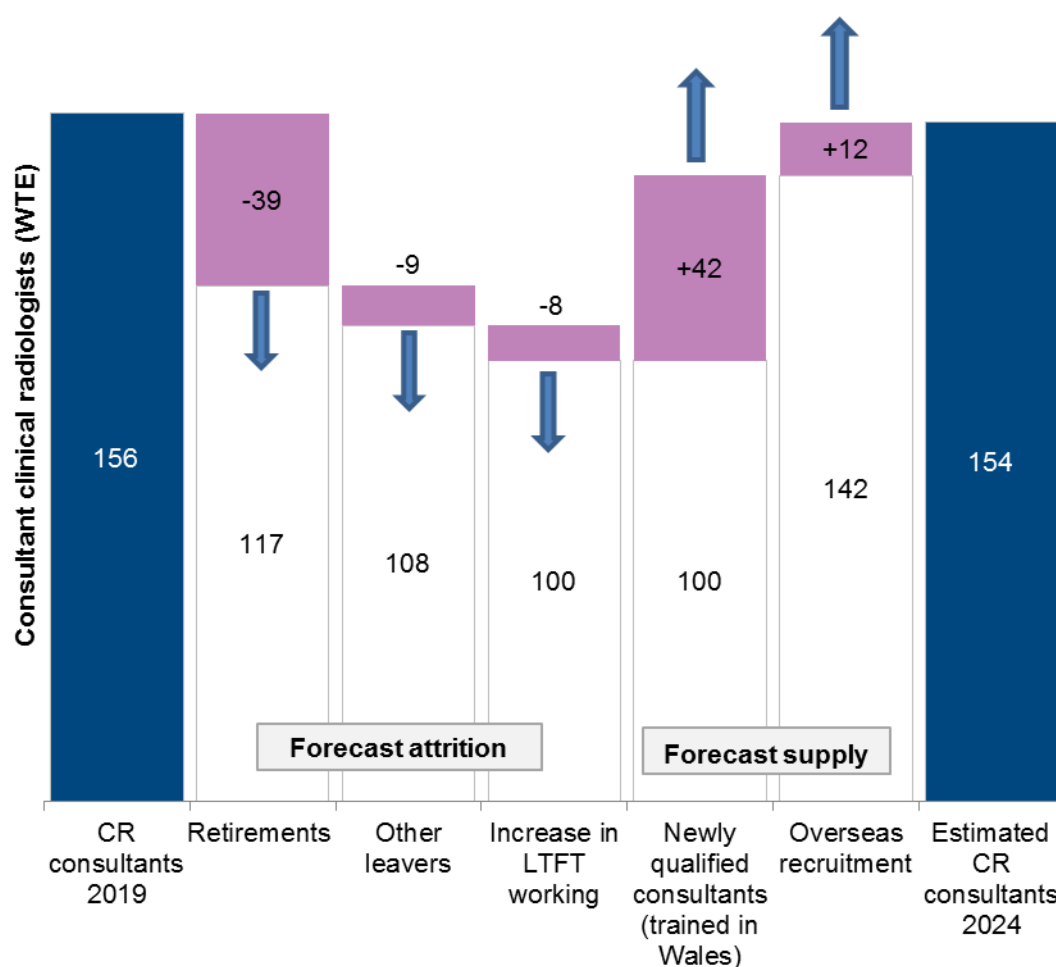
- **UK specialty training:** based on RCR training and census data, the total number of UK-trained consultant clinical radiologists who will join the workforce in Wales in the next five years is estimated to be 42 WTE consultants.
- **Overseas recruitment:** if trends from recent years continue, approximately 12 WTE consultant clinical radiologists will be recruited from overseas to the workforce in Wales in the next five years.\*
- **Retirement:** based on the median retirement age of 60 years, an estimated 39 WTE consultant clinical radiologists in Wales – equivalent to 25% of the workforce – are expected to retire in the next five years.\*\* This level of attrition exceeds the UK retirement forecast of 20% of the workforce and will put considerable additional strain on the workforce in Wales.
- **Other leavers:** assuming the annual attrition rate of 1% for other leavers (excluding retirees) observed over the past five years remains unchanged, attrition in the next five years is estimated to be nine consultants (WTEs).
- **Less than full-time (LTFT) working:** the workforce capacity loss due to LTFT working in Wales has increased from seven WTE consultant clinical radiologists in 2014 to 15 WTEs in 2019. In other words, if all consultant clinical radiologists working LTFT in 2019 were to switch to full-time working, the workforce would increase by the equivalent of 15 WTE consultant clinical radiologists. If the trend towards increased LTFT working continues in a linear fashion, the effect will equate to eight fewer WTE consultant clinical radiologists in Wales by 2024.
- **Future shortage of specialists:** census data show that there is likely to be an increased shortage of breast radiologists in Wales over the coming five years. The number of consultants specialising in breast radiology expected to retire within five years outnumbers new consultants entering the workforce in Wales choosing to specialise in these areas.

\*Overseas recruitment refers to the recruitment of all consultant radiologists who have undertaken specialty training outside of Wales.

\*\*The UK median retirement age has been used for this forecast, as the dataset is larger and more consistent from year to year.

Figure 1 shows that, should trends from the past five years continue over the next five years, there will be approximately 154 WTE consultant clinical radiologists in post in Wales in 2024. This corresponds to the workforce shrinking by the equivalent of 1% (two WTE consultant clinical radiologists) over the next five years. This compares to an 18% growth forecast across the UK as a whole. This indicates that the gap between the estimated supply of consultant clinical radiologists and the estimated demand for diagnostic imaging and interventional radiology services in Wales (see Section 4) will widen further, unless timely mitigating action is taken.

**Figure 1. Consultant radiologist WTE workforce in Wales – five-year forecast (2019–2024)**



#### 4. Workforce demand

Demand for complex imaging has been growing across the UK over many years, driven by many factors including an aging population, increased screening to support early diagnosis initiatives and new clinical guidelines. Imaging is used routinely in many patient pathways and plays a vital role in diagnosing and monitoring many medical conditions, including cancer and stroke.

No health board in Wales was able to meet its reporting requirements within consultant clinical radiologists' contracted hours in 2019, indicating severe workforce shortages. Clinical directors of radiology departments at six of the seven health boards (86%) in Wales felt there were insufficient radiologists in their departments to deliver a safe and effective level of patient care.

Two of the most commonly used methods for managing shortfalls in radiology reporting capacity are outsourcing of reporting to the independent sector and insourcing, which means additional paid reporting by health board radiologists outside of their contracted hours. All seven health boards in Wales reporting using both outsourcing and insourcing to manage shortfalls in reporting capacity in 2019.

#### Estimated costs of outsourcing and insourcing

Many of the mechanisms used by radiology departments to manage shortfalls in reporting capacity incur direct and indirect costs. Combined outsourcing, insourcing and ad hoc locum expenditure has increased significantly in Wales over the past five years, though a decrease has been seen over the past year. In 2019, estimated expenditure in Wales totalled £7.6 million, quadruple the £1.9 million expenditure for these activities in 2014. For context, £7.6 million is equivalent to the combined salaries of more than half of the existing workforce in Wales (85 WTE consultants).<sup>2\*</sup> A breakdown of insourcing, outsourcing costs and ad hoc locum costs by Welsh region can be found in Appendix A.

*\*Based on point three of the 2019 NHS consultant pay scales for Wales.<sup>2</sup>*

Outsourcing of reporting to the independent sector amounted to an estimated £4 million in Wales in 2019, accounting for approximately half (54%) of the combined £7.6 million outsourcing, insourcing and ad hoc locum expenditure. Outsourcing expenditure in 2019 across Wales equates to an estimated £1.27 per head of population – lower than the UK figure of £1.62. Within Wales, outsourcing expenditure per head of population was similar between North and West Wales and South Wales.

Insourcing expenditure totalled almost £2 million in Wales in 2019. There is variability across Wales in terms of insourcing costs relative to the size of the consultant radiology workforce. The average insourcing expenditure in Wales was £12,700 per consultant clinical radiologist (WTE), lower than the UK average of £15,000 per consultant. As shown in Figure 2, insourcing expenditure in North and West Wales was approximately £18,000 per consultant clinical radiologist (WTE), whereas expenditure in South Wales was £11,000 per radiologist. This could be due to the higher clinical radiology workforce shortages in North and West Wales.

**Figure 2. Insourcing expenditure per consultant clinical radiologist (WTE) – Wales regions, 2019**



### Estimated shortfall of consultant clinical radiologists in Wales in 2019

It is estimated that an additional 51 consultant clinical radiologists would have been required to report the volumes of imaging examinations conducted in Wales in 2018 (2019 figures have not been published).<sup>\*</sup> This estimate takes into account the estimated time taken to report each type of imaging examination and the estimated percentage of images reported by consultant clinical radiologists.

Combining the estimated shortfall of diagnostic ( $n=51.4$ ) and interventional ( $n=16.2$ ) consultant clinical radiologists, the total estimated shortage of consultant clinical radiologists (WTE) in Wales in 2019 was 68. However, this estimate does not take into account the radiology workforce required to report complex imaging, which takes longer to report, so understates the true shortfall. Other data indicating the shortage of consultant clinical radiologists are:

- The number of additional consultant clinical radiologists required in Wales to meet the European average of 12.8 radiologists per 100,000 population is 126.<sup>5</sup>
- The number of consultant clinical radiologists that could be funded by insourcing/outsourcing costs in Wales in 2019 is 85.

<sup>\*</sup>For methodology, see Table 10 of the UK clinical radiology workforce census 2019 report.<sup>1</sup>

Using the average of all three shortfall estimates, the shortfall of consultant clinical radiologists in Wales is estimated to be 93 consultant clinical radiologists (WTE). This equates to a 37% workforce shortfall.

Demand for radiology services in Wales is likely to grow further over the next five years given the increased demand for diagnostic imaging, the greater complexity and diversity of imaging studies and the rising demand for interventional radiology.

The current shortfall of 93 WTE consultant radiologists in Wales is forecast to increase in line with demand unless urgent action is taken to address the situation.

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## 5. Workforce scenarios and potential solutions for Wales

This section considers the impact that various scenarios could have on the estimated shortfall of 93 consultant clinical radiologists in Wales.

As outlined in Table 4, increasing training places and incentivising consultants to delay retirement would have the most significant impact on the capacity of the workforce in five years' time. If all the following measures were realised, this would eliminate 87% of the current radiologist workforce shortfall in Wales.

**Table 4. Workforce capacity scenarios for Wales, next five years**

Scenario	Estimated increase in WTE consultants over five years	Proportion of 2019 workforce shortfall met
<b>Training</b>		
Increase annual training places from 14 to 29*	54	58%
Reduce training attrition from 10% to 5%	3	3%
<b>Recruitment</b>		
Increase overseas recruitment by 50%	5	5%
<b>Retention</b>		
Incentivise consultants to retire at 65 (increase from 60)	13	14%
Increase staff retention – halve attrition for reasons other than retirement	5	5%
<b>Total</b>	<b>80</b>	<b>86%</b>

*[Please note, trainees who start training in five years' time are forecast to finish training in approximately 11 years' time. To present the data clearly, this time lag is not demonstrated in Table 4.]*

*\*14 is the average number of trainees starting specialist training in clinical radiology in Wales each year between 2017 and 2019.*

In conclusion, to meet the increasing demand for radiology services, clinical radiology specialty training numbers in Wales need to be boosted further, including additional funding for IR posts. A National Imaging Academy was set up in Pencoed in 2018, with the capacity to train 20 consultant radiologists per year. The above table indicates that it is necessary to use the academy to its full capacity and to create further additional training places to reduce workforce shortages in Wales. In addition, strategies for workforce retention are vital and should include support for flexible and home working.

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  5. <https://ec.europa.eu/eurostat/data/database> (last accessed 3/8/20)
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## Appendix A. Regional workforce data table

In this report, health boards are grouped into the geographical regions outlined in Table 5.

**Table 5. Wales regions**

North and West Wales	South Wales
Betsi Cadwaladr University Health Board	Aneurin Bevan University Health Board
Hywel Dda University Health Board	Cardiff and Vale University Health Board
	Cwm Taf Morgannwg University Health Board
	Swansea Bay University Health Board
	Velindre NHS Trust

**Table 6. Consultant radiologists, Wales regional data, 2019**

	North and West Wales	South Wales	Wales
Number of trusts/health boards (included in census)	2	5	7
<b>Clinical directors' views</b>			
Proportion who think there are insufficient radiologists to deliver safe and effective patient care	100%	80%	86%
<b>Workforce</b>			
Consultant clinical radiologists (headcount)	45	127	171
	(41 WTE)	(115 WTE)	(156 WTE)
Trainees (headcount)	10	62	72
SAS-grade doctors (headcount)	2	1	3
Total headcount (consultants, trainees and SAS)	57	189	246
IRs as % of WTE workforce	22% (9 WTE)	15% (17 WTE)	17% (26 WTE)
Trainees as % of workforce	18%	33%	30%
Locums as % of workforce	9%	8%	8%

	North and West Wales	South Wales	Wales
<b>Workforce trends</b>			
Percentage of WTE workforce forecast to retire within five years*	21%	27%	25%
Percentage of IR WTE workforce forecast to retire within five years	–	–	15%
Annual workforce growth (average – past five years)	0%	2%	2%
IR – annual workforce growth (average – past five years)	0%	2%	2%
Vacancy rate	13%	11%	12%
% workforce loss due to LTFT working	8%	9%	9%
<b>Programmed activities (PAs)</b>			
Mean PAs per week (full-time NHS consultants)	11.2	10.9	11.0
<i>of which are direct clinical care (DCC) PAs</i>	8.7	8.4	8.5
<i>of which, supporting professional activities (SPA) PAs</i>	2.5	2.5	2.5
<b>Imaging examinations (financial year 2017–2018)</b>			
Computed tomography examinations	NK	NK	326,630
Magnetic resonance imaging examinations	NK	NK	150,099
X-rays	NK	NK	1,332,822
<b>Population</b>			
	1,086,843	2,066,036	3,152,879
WTE radiologists per 100,000 population (excludes trainees)	3.8	5.6	5.0
WTE radiologists per 100,000 population (includes trainees)	4.7	8.6	7.2
European average is 12.8 <sup>5</sup>			
WTE IRs per million population (excludes trainees)	8	8	8

	North and West Wales	South Wales	Wales
<b>Outsourcing/insourcing costs (FY 2018–2019)</b>			
Outsourcing to teleradiology companies	£1,354,819	£2,636,246	£3,991,066
Additional payments to contracted radiologists (insourcing)	£747,761	£1,235,426	£1,983,187
Ad hoc locums (for excess reporting)	£342,783	£1,279,046	£1,621,829
Total insourcing/outsourcing costs	£2,445,363	£5,150,718	£7,596,082
Outsourcing expenditure per head of population	£1.25	£1.28	£1.27
Insourcing expenditure per WTE consultant radiologist	£18,000	£11,000	£12,700

	North and West Wales	South Wales	Wales
<b>Estimated workforce shortfall</b>			
<i>Estimate A</i>			
IR consultant shortfall (based on six IRs per trust, excluding those with formal daytime and out-of-hours network transfer arrangements)	6	10	16
Consultant (diagnostic) radiologist shortfall based on volumes of imaging examinations**	NK	NK	51
WTE consultant shortfall (sum of above)	NK	NK	68
<i>Estimate B</i>			
Additional consultant radiologists required for 12.8 radiologists per 100,000 population (European average) <sup>5</sup>	56	69	124
<i>Estimate C</i>			
Number of full-time radiologists that could be funded by outsourcing/insourcing costs	24	56	85
Estimated WTE consultant clinical radiologist shortfall 2019 (average of estimates A, B and C)	NK	NK	93
Estimated percentage shortfall 2019	NK	NK	37%

\*Based on UK median age of retirement (60 years).

\*\*Calculated using 40 weeks per year to allow for training days, annual leave and sickness. Excludes interventional radiologists.

\*\*\*Estimate adjusted to take account of health boards unable to supply financial data.

[Due to rounding, numbers in this table may not add up precisely to the totals provided.]

NK: Not known



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